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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,636	08/07/2001	Timothy Neeser	P-4428CIP	2285

7590 07/16/2003  
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EXAMINER	
LAU, TUNG S	
ART UNIT	PAPER NUMBER
2863	

DATE MAILED: 07/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/923,636

Applicant(s)

NEESER ET AL.

Examiner

Tung S Lau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

***Combination/subcombination***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-4, drawn to method of determining volume in a tank using lookup table data, classified in class 702, subclass 156.
  - II. Claim 5 drawn to method of determining volume in a tank using pressure sensor, classified in class 702, subclass 156.

The inventions are distinct, each from the other because of the following reasons:

Inventions of each of groups I-II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, inventions can each be used for their respective uses has separate utility such as determining volume in a tank. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Blake Johnston, Registration number 41,097 on 6/11/03 a provisional election was made **without traverse** to prosecute the invention of group I, claims 1-4. Affirmation of this election must be made by applicant in replying to this Office action. Claim 5 is withdrawn from

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further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Mastandrea (U.S. Patent 4,852,054).

Regarding claim 1:

Mastandrea discloses a method of determining in a volume of liquified gas in a cryogenic storage tank having a liquid space and a head space, comprising the steps of: entering and storing the dimensions and orientation of the storage tank(fig. 1, unit 31,27, fig. 13, 14, 17, Col. 12, Lines 26-44); entering and storing the type of liquefied gas contained in said tank; entering and storing a stratification coefficient (Col. 22-23, Lines 62-12); storing a lookup table of conversion coefficients used to covert a head pressure value into an estimated average pressure value (Col. 12, Lines 26-44), said conversion coefficients being accessed according to the entered dimensions and orientation of the storage tank; storing a lookup table of density constants (Col. 12, Lines 26-44), stored according to the estimated average pressure, and liquid type; measuring the differential pressure between the liquid space and the head space; Measuring

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the pressure at the head space; calculating an estimated average pressure using the measured head pressure and the stratification coefficient (Col. 12, Lines 26-44); reading a liquid density value from a look-up table of density constants using the calculated estimated average pressure and the entered liquid type (Col. 12, Lines 26-44); and computing in a liquid volume in said tank as a function of said differential pressure, liquid density tank dimensions, tank orientation, and type of liquefied gas (abstract).

Regarding claims 2, 3:

Mastandrea also discloses displaying the volume on a display (fig. 1, 29, fig. 10a), tank height and diameter (fig. 13, 14, Col. 12, Lines 26-44),

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mastandrea (U.S. Patent 4,852,054) in view of Butler (U.S. Patent 6,234,030).

Mastandrea disclose a method including the subject matter discussed above except the use of alert signal, Butler disclose the use of a alert signal in order to alert the user as to any suspect condition (Col. 15, Lines 25-43).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mastandrea to have the use of a alert signal taught by Butler in order to alert the user as to any suspect condition (Col. 15, Lines 25-43).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 703-305-3309.

The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 703-308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5841 for regular communications and 703-308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

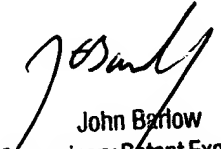
TC2800 RightFAX Telephone Numbers : TC2800 Official Before-Final RightFAX - (703)

872-9318, TC2800 Official After-Final RightFAX - (703) 872-9319

TC2800 Customer Service RightFAX - (703) 872-9317

TL

July 1, 2003

  
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